

had seen prostatectomies, and he had done them, where everybody around was amazed at the flow of blood. It was unnecessary to transfuse patients if the technique of Young was followed. With this technique everything was under control of the eye, and one need not be afraid of a secondary hæmorrhage. He called anything surgery that one could see, and when he could detect every fibre and tissue he was working on. He did not call it surgery to take a knife in hand, jab it into the tissues, and then work in the dark, not knowing what he was feeling. No operation had pleased him more than when he did an operation on this case, because he had everything before his eyes clean down to the prostatic urethra.

He did not say anything about getting the patient up, but desired to say now that this patient was sitting up in bed on the second day. In the case of old men it was better to get them up as early as possible. He believed that this was generally accepted by all surgeons, that the earlier old men were gotten up the better it was for them.

GALL-BLADDER AND BILIARY-DUCT SURGERY.

DR. D. A. K. STEELE read a paper with the above title, for which see page 201.

DR. A. J. OCHSNER said there was no doubt whatever but what in the vast majority of all patients suffering from gall-stones, cholecystitis, or disease of the ducts, there was a time when the condition could be safely and permanently relieved by an operation, and that the serious conditions which the essayist had emphasized were the result of late conditions. A cholecystectomy would have to be made very seldom if an operation were done early. A choledochotomy would have to be performed probably never in case an operation were performed at the best possible time. Perforation of the gall-bladder, of course, would not occur. Peritonitis would not occur, so that whenever surgeons had an opportunity of impressing the internist with this fact, he thought they should do it. He thought also it should be done by securing the attendance of the internist at the operation, so that he can really see what was the matter inside of a patient, what the condition in the gall-bladder and in the ducts was at the time of the operation. If the internist saw enough of these

cases, he would soon learn not only to make a diagnosis of gall-stones, but he would learn to advise early operation. Even then it was not possible, because many of these patients would refuse operation, though urged by a man to submit to operation who had the conviction of a surgeon, so that it could not always be done. But the difficulty in these cases was this, that the majority of patients coming under the surgeon's care suffering from gall-stones had suffered previously from a diagnosis of gastritis. If there had not been the misfortune of this diagnosis having been made, the patient might have been relieved, but having had a diagnosis of gastritis or gastralgia made, the patient would continue to suffer from gall-stones because of the fact that he had been treated for the wrong condition.

In many cases suffering from cholecystitis, with the presence of gall-stones or sand in the gall-bladder, he had found the usual stomach symptoms, and upon examining the patient had found that the tenderness was to the left of the median line, while in a case of gastric ulcer, the greatest point of tenderness was usually exactly at the median line, although, in case the ulcer was in the greater curvature, or in the cardiac end of the stomach, then this was not strictly true. Now and then there might be vomiting of blood; there might have been blood in the stools; but the tenderness was to the left of the median line, so that a diagnosis of gall-stones was made. The typical point of tenderness between the end of the ninth rib and the umbilicus was also present; but upon opening the abdomen it would be found that the duodenum at its upper end was greatly distended, and that the pylorus was wide open. In cases of gastric ulcer the pylorus was closed, as a rule. When one lifted up the transverse colon and examined the small intestine, the jejunum, where it passes through the mesentery of the transverse colon, was contracted. It was empty, while the duodenum was open. Enlarged glands were found along the duodenum. This could only be explained in this manner, that there was a physiological obstruction opposite the entrance to the common duct into the duodenum, and for that reason the duodenum was distended with gas above and was closed lower down. In a large majority of these cases he had found either gall-stones or sand in the gall-bladder. Furthermore, in many of these cases he had found pancreatitis, due to physiological closure at a point behind the

stomach, a little below the entrance of the common duct. He would like to have other surgeons observe this condition in operating, namely, whether in many of their cases they find a dilated duodenum, a wide open pylorus, and a contracted jejunum down below.

DR. D. N. EISENDRATH said the more he saw of gall-stone cases, the more impressed was he that surgeons were apt to forget the complications on the part of the liver itself. In a paper read by him three years ago, to which the essayist had referred, he investigated, made sections, and cultures of a case that was operated upon by Dr. Greensfelder at the Michael Reese Hospital. In this case he found scarcely any of the liver cells stained, practically nothing but the inner third around the central vein. If one investigated the liver in cases of cholecystitis and gall-stones, varying degrees of liver necrosis as a result of infective cholangitis would be found, where there was an associated cholangitis, with or without pus formation, the more he was impressed in almost every case of gall-stones, in which there had been any perceptible degree of infection in the way of elevation of temperature, or chills, or leucocytosis, that there was considerable change in the liver parenchyma. How did this affect the prognosis? The liver was scarcely able, after a gall-stone operation, to excrete the normal amount of bile; it was not able to get rid of the many foreign substances which it ought to do, consequently there was that much more work thrown on the kidneys, and frequently after gall-stone operations patients became cholæmic. He saw a case recently of that kind. The patient became unconscious, began to vomit, and to have high temperature, and died within three or four weeks. These patients sometimes died from cholæmic symptoms, sometimes from symptoms of uræmia in addition to cholæmia; the cause of the uræmia being, in all probability, due to the fact that the kidneys are temporarily overworked by having too much excrementitious material thrown upon them.

DR. M. L. HARRIS stated that since the surgeon had taken these cases under treatment, our ideas concerning gall-stones had materially changed. He would only mention a few points. First, gall-stones were always preceded by infection. They were due to infection. Gall-stones were therefore a secondary condition of the infection. He believed the infection, contrary to the gen-

erally accepted idea, was a descending infection. It was not due to the ascending infection, that is, organisms passing from the intestine up the bile duct, but due to a descending infection. The microbes were eliminated by the liver, and these gained access to the biliary passages.

Infection being the primary and chief condition, the surgeon operated to relieve or cure the infection. Gall-stones never gave rise to any trouble until they migrated or became restless. Every operation, therefore, should be accompanied or followed by drainage of the gall-tracts. The gall-tracts should be drained until the flow of bile was sterile. If one would make daily cultures of these infected bile-tracts, he would find that he would be able to obtain a culture up to a certain point and then fail. This is the only scientific time when drainage should be discontinued. Practically, it had been found that the bile would become sterile on an average in from ten days to two weeks; but one should continue drainage until he was no longer able to obtain a culture from the escaping bile.

DR. JACOB FRANK reported a case of infection of the liver. Recently he operated upon a patient for multiple abscess of the liver following appendicitis. Six weeks after the operation for appendicitis there was fever and other symptoms, and he suspected an abscess of the under or upper surface of the liver. On opening the abdomen, he took a culture from the gall-bladder, then punctured the liver, and took cultures from it. In the fluid, however, there were a few small flakes that did not look natural, but he did not know what they were. The patient died; a post-mortem examination was made, and multiple abscesses of the liver were found. The bile from the gall-bladder was sterile. He simply wished to ask this question. Why was the bile sterile in this case, and why was there not a descending infection? The aspirations taken from the liver were not sterile.

DR. E. WYLLYS ANDREWS believed that surgeons had over-estimated postoperative drainage as a curative measure. A statement of this kind as to the curative value of drainage was useful to surgeons in the class of cases on which they operated under mistaken diagnoses, and not having found any gall-stones, they could fall back on the theory of giving benefit to the patient by drainage. This was liable to be fallacious in his opinion, because it held a half truth. It was impossible to over-estimate the

value of restoring the drainage of the gall-tracts in a case of obstruction *per vias naturales*, but if this natural-tract drainage was restored, he was rather disposed to think, the more he saw of gall-tract work, that external drainage was needed only to save the peritoneum. It was known that a patient who had an obstructed deep duct and external drainage was secured alone, was only temporarily relieved, and after a moderate length of time would die of inanition if all the bile escaped from the fistula. In certain recent cases he had observed, instead of a marked and direct improvement following drainage, although jaundice was gotten rid of, there was slow exhaustion. Death did not always occur from peritonitis, uræmia, or from cholæmia, but from marasmus. He did not see how gall-stone surgery could help any patient except by removing mechanical obstruction to the flow of bile. It did not follow from that, however, that we did not need drainage; but we did, because it was a mechanical necessity after these incisions for a short time.

As to the remarks of Dr. Harris, that daily examinations would show less and less number or virulence of the micro-organisms, if it was true, as shown by Fütterer, that the normal gall-tracts physiologically contained living micro-organisms which were excreted by the liver and sent out through the intestines, he did not see that the point was of any particular value. In the last year he had come to look upon cholecystectomy as of less value than formerly. It might be he had over-estimated cholecystectomy in connection with gall-stone work; and possibly there were surgeons who were disposed to remove gall-bladder in a routine way the same as the appendix. Cholecystectomy was indicated in a certain class of cases, but in other classes of cases where the surgeon was in doubt as to whether or not to do it, it had been a distinct disappointment.

DR. STEELE, in closing the discussion, stated he had limited what he had to say to certain phases of the subject, and had then cited a few cases showing the bad results of late operations, and urging upon the Fellows the necessity of early operation. Although surgeons recognized the necessity of early operation in these cases, it was difficult to convince the general practitioner of its importance, even after early diagnoses were made. As the *Transactions* of the Society were read by a large number of general practitioners, he hoped the discussion would be of service

in helping them to make earlier diagnoses and referring their cases to surgeons for early operation.

There were many moot points connected with the subject of surgery of the bile-tract. He was familiar with the experiments that were made by Fütterer some years ago, showing the rapidity with which micro-organisms, when introduced into the blood, were found in the bile and passing down into the intestines; yet his personal experience had been so strongly along the lines indicated by Dr. Harris, he thought patients were not safe until bile became sterile, and he therefore drained every case,—at least, he drained more now than he used to do in these cases. Formerly, it was thought the ideal method was to close the gall-bladder after the removal of the gall-stones, but those patients did not do as well as those patients that were now treated by drainage. Where we had a dilated and infected common duct, or where we had gross pathological changes in late cases, drainage was absolutely essential, and must be continued for a longer time; and if one attempted to close the gall-bladder, as was done in the earlier operations, the patients would not do as well as they would where external drainage of the infected bile was resorted to, and drainage of a portion of the infected bile down into the duodenum.

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